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ABSTRACT

This paper presents the results of the evaluation of the North York French immersion program at kindergarten, grade 1 and grade 2. The evaluation included the pupils enrolled in the first class established at each grade level, and focussed on the following four questions: (1) Are pupils developing competence in the French language; (2) Is the development of reading and arithmetic skills comparable to that of pupils in an English-only program; (3) Are pupils developing a positive self-image; and (4) Has the development of intellectual and cognitive abilities been hindered as a result of instruction in a second language? In addition to data gathered each year from pupils participating in the program, their parents were asked to complete questionnaires regarding their opinions of the program, as well as their general attitudes toward French and toward learning a second language. The report is divided into two major sections. Part 1 describes both the method for collecting data from pupils, and the results of the data analysis for each of the three grade levels, respectively. Part 2 outlines the results of the parent questionnaires distributed each year. (Author/CLK)

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RESEARCH REPORT

AN EVALUATION OF THE FRENCH IMMERSION PROGRAM

KINDERGARTEN - GRADE TWO

Patricia Crawford

August, 1976

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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On behalf of the French Immersion Committee, I would like to thank the teachers, pupils and principals in the schools offering the immersion program, as well as the two schools which very kindly served as the comparison group, for their co-operation in our extensive testing program during the past three years.

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INTRODUCTION

Background of the Study

On February 19, 1973, it was approved at a meeting of the North York Board of Education:

> "(a) that the Pilot French Immersion Program be introduced at the kindergarten level at Brian Public School and Broadlands Public School on September 1, 1973 subject to enrolment being sufficient to permit the establishment and maintenance of the program, ...
>
> (e) that an evaluation of the Immersion Program be completed at the end of the third year of operation".

In accordance with these instructions, Educational Research and Development implemented a three year study to evaluate the French Immersion Program.

Aim of the Immersion Program

The general aim of the immersion program may be stated as follows:

> " to enable students to become highly proficient in the second language while, at the same time, maintaining and developing their proficiency in the first language and fully guaranteeing their 'educational' development".

Brief Review of Literature

The growing emphasis on bilingualism in Canada is reflected in the fact that immersion programs in French have become increasingly popular for English-speaking youngsters throughout Canada. According to one estimate, 20,000 anglophone pupils are now enrolled in immersion programs across Canada. One consequence, therefore, is that data from Canadian-based empirical studies are now available which enable us to assess the linguistic and attitudinal consequences of participation in such programs.

In Early Immersion programs (ie. beginning in Kindergarten) the entire curriculum is in French during the first few years, although pupils are not required to speak French during the first year. Instruction in English is usually introduced in grade 2 or 3 and is increased

each year until half of each day's instruction is in English and half in French.

The first primary immersion program in a public school system in Canada was established in St. Lambert, a suburb of Montreal, in 1965. Longitudinal studies have been carried out on the first class enrolled in the program, as well as classes in subsequent years (Lambert and Tucker, 1972; Lambert, Tucker & d'Anglejan, 1973). The initial success of the St. Lambert program provided a stimulus for school boards in other parts of Canada to establish similar programs.

Although the question was raised as to whether such programs would be as successful in a unilingual English setting where exposure to French would be limited primarily to the school environment, evaluations of programs in Toronto, Ottawa and Vancouver tend to confirm the findings in St. Lambert (eg. Swain, 1974; Barik & Swain, 1975; Barik and Swain, 1976; Edwards and Casserly 1976; Middleton, 1975).

There have been four major areas of concern in the evaluations, ie., French language proficiency, English language proficiency, competence in other subject areas, and the effect of participating in the program on the child's cognitive development. In general, the results are as follows:

1. The French language achievement of pupils in immersion programs is superior to that of pupils following a core program of French instruction, ie., 20-30 minutes a day. For example, the St. Lambert study concludes: "that by grades 4 and 5 the children in the experimental classes have attained a stage of functional bilingualism that permits them to read, write, comprehend, and speak French with fluency and naturalness" (Lambert, Tucker & d'Anglejan, 1973).

2. Prior to the introduction of English language arts, immersion pupils do not do as well as their peers in the regular English program on English language tests. However, once formal instruction in English language arts is introduced, whether it be as early as grade 2 or as late as grade 4, the immersion pupils make rapid gains in reading comprehension and spelling. These findings should allay the fears of many parents that their child's development of English language skills will be harmed in any significant way.

3. In subject areas other than English or French (mathematics was usually the subject assessed) the pupils of the immersion program did as well or better than their English program counterparts, and they were able to transfer the knowledge from one language to the other.

4. There have been no significant signs of intellectual advantage, nor retardation of pupil's abilities, as a result of several years study in a language other than their native tongue.

A further area of concern has been the development of attitudes towards the native speakers of the second language. Studies have consistently found that the attitudinal and motivational factor is extremely important for second language achievement (Gardner &

Lambert, 1973; Gardner & Smythe, 1974). Behind most of these studies is the assumption that the attitudes a person has towards the group whose language he is studying will determine his orientation in learning that language. One advantage, therefore, in introducing an early immersion program is that the children have had little opportunity to develop negative attitudes toward the second language. In the St. Lambert experiment, pupils in grade 5 stated that they enjoy the form of education they are now receiving and want to stay with it; their feelings toward French people have become decidedly more favourable and they now think of themselves as being both French and English-Canadian in personal make-up.

In summary, Early Immersion programs appear to have been successful.

Purpose of this Report

This paper presents the results of the evaluation of the North York French immersion program at kindergarten, grade 1 and grade 2. The evaluation included the pupils enrolled in the first class established at each grade level, and focussed on the following four questions:

(1) Are pupils developing competence in the French language?
(2) Is the development of reading and arithmetic skills comparable to that of pupils in an English only program?
(3) Are pupils developing a positive self-image?
(4) Has the development of intellectual and cognitive abilities been hindered as a result of instruction in a second language?

In addition to data gathered each year from pupils participating in the program, their parents were asked to complete questionnaires regarding their opinions of the program, as well as their general attitudes toward French and toward learning a second language.

The remainder of the report is divided into two major sections. Part I describes both the method for collecting data from pupils, and the results of the data analysis for each of the three grade levels, respectively. Part II outlines the results of the parent questionnaires distributed each year.

PART I - PUPIL DATA

Kindergarten, 1973 - 74

Sample

The sample included all pupils enrolled in the immersion kindergarten classes at both Brian Public School and Broadlands Public School. In addition, two classes of pupils enrolled in the regular kindergarten program in each of two schools in the same geographical area of the Borough were included in the study as a comparison group.

Instruments

Data were collected from pupils in both the immersion and regular English kindergarten programs on the following measures:

(1) Otis-Lennon Mental Ability Test (Primary I level) which provides an assessment of general mental ability. At the primary level, items sample the mental processes of classification, following of directions, quantitative reasoning and comprehension of verbal concepts. Each item in the test is presented orally, no reading is required.

(2) Primary Self Concept Inventory developed by Educational Research and Development to provide a measure of the pupil's feelings about himself within the school setting.

(3) Metropolitan Readiness Test which provides an assessment of the degree to which pupils have developed in skills and abilities which contribute to readiness for grade one. The following six subtests are included in the test:

(a) word meaning, a picture-vocabulary test;
(b) listening, a test of phrase and sentence comprehension;
(c) matching, a test of visual perception involving the recognition of similarities;
(d) alphabet, a test of ability to recognize lower-case letters of the alphabet;
(e) numbers, a test of number knowledge;
(f) copying, a test of visual perception and motor control.

Pupils in the immersion program only were administered an additional test:

French Comprehension Test* (1974 edition) developed by the Bilingual Education Project, O.I.S.E., to measure the child's listening comprehension in French.

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* As there were no published tests of French as a second language suitable for use in French immersion programs, we would like to acknowledge with thanks, the Bilingual Education Project, O.I.S.E. for permission to use the French Comprehension Test.

The test requires the child to identify pictures that are referred to by a spoken French word, short phrase, sentence, command, question or short story.

Procedure

During the first two weeks in October, 1973 pupils in both programs were asked to complete the Otis-Lennon Mental Ability Test and the Primary Self Concept Inventory. The tests were administered by Educational Research personnel during three sessions of approximately twenty minutes each. At each session, only half the class was tested at one time.

Post-testing occurred during the first two weeks in May, 1974. Four separate testing sessions were arranged for pupils in each class in which they were administered the Otis-Lennon Mental Ability Test, the Primary Self Concept Inventory, and the Metropolitan Readiness Test. An additional session was arranged for the immersion pupils to complete the French Comprehension Test, which was administered by a bilingual native-like speaker of French.

Results

Average scores obtained by immersion and regular program pupils on each of the measures are presented in the following sections.*

Otis-Lennon Mental Ability Test

In the fall 1973, at the beginning of the evaluation, the average IQ score for immersion pupils in kindergarten was, statistically, significantly higher than that of pupils in the regular kindergarten program (109 vs. 103)**. As performance on achievement tests is related to mental ability, it was therefore necessary to adjust statistically, the scores for both groups on all of the remaining measures, using a procedure called analysis of covariance, to take into account this initial discrepancy. The "adjusted scores" represent the scores pupils in the two groups would have obtained if they had had "equal" IQ scores, on the average, at the beginning of the year. It is the adjusted scores, therefore, which are discussed in the body of the report***.

The average adjusted IQ scores for the two groups in the spring of the kindergarten year were not significantly different. Therefore, when compared with pupils in a regular program, immersion pupils were not at a disadvantage.

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* Only pupils for whom data were available on all measures were included in the analysis.

** The reader will note, however, that the scores for both groups are within the average range for IQ scores, ie., approximately 90 - 110.

*** The average scores, both unadjusted and adjusted, are presented in Appendix 1 for each group on all measures.

Primary Self Concept Inventory

Average adjusted scores for the two groups of kindergarten pupils on both fall and spring administrations of the Self Concept Inventory are shown in the following table.

AVERAGE ADJUSTED SCORES* OBTAINED ON THE PRIMARY SELF CONCEPT INVENTORY

	Kindergarten	
	Immersion (N=51)	Regular Program (N=45)
Fall-October, 1973	26	25
Spring - May, 1974	24	25

* Maximum Score is 40.

There were no significant differences between pupils in the immersion and regular kindergarten programs, in terms of their average self concept scores, either in the fall or in the spring.

Metropolitan Readiness Test

The average adjusted scores on the various subsections of the Metropolitan Readiness Test are shown in the following table.

AVERAGE ADJUSTED SCORES OBTAINED ON THE METROPOLITAN READINESS TEST

	Kindergarten		
	Immersion Program (N=51)	Regular Program (N=45)	
* Word Meaning (16)	10	10	
Listening (16)	10	11	
Matching (14)	10	9	
Alphabet (16)	14	14	
Numbers (26)	15	13	**
Copying (14)	7	8	
TOTAL (102)	65	65	

* The number in brackets represents the maximum score possible on each subtest.

** Significant, $p < .05$

There was no significant difference between the two groups of pupils in terms of their total score on the Metropolitan Readiness Test, and with one exception, there were no significant differences on the various subsections of this test. The exception was the numbers subtest on which the immersion pupils obtained significantly higher scores on the average than pupils in the regular program.

In terms of the American norms for this test, pupils in both programs scored between the 65th and 75th percentiles, ie., they obtained scores equal to or better than between 65 - 75% of the grade 1 pupils on whom the test was standardized.

Thus after one year in the French immersion program, pupils were as ready to enter the grade 1 program as those who had attended a regular English kindergarten program.

French Comprehension Test

Average scores, for the immersion pupils on the French Comprehension Test are presented in the following table.

AVERAGE SCORES - FRENCH COMPREHENSION TEST - KINDERGARTEN

SUBTEST	Average Score	Expressed as a Percentage of Maximum Score Possible
Words (12)*	8	68
Phrases (28)	15	55
Questions (9)	5	60
Stories (13)	6	45
TOTAL (62)	35	56

* The number in brackets represents the maximum score for each subtest.

Although norms for the French Comprehension Test at the kindergarten level were not available in 1973-74, data were available from the evaluation being conducted by OISE at Allenby school in Toronto. The average score for kindergarten pupils at Allenby was 36, which is comparable to that of pupils in the North York program (i.e., 35).

Summary

At the end of kindergarten, pupils in the immersion program are performing at a level consistent with that of pupils in a regular English kindergarten program and are developing some skills in the French language.

Grade 1 1974 - 75

Sample

The sample included all pupils who continued in the immersion program at the Grade 1 level, and all pupils enrolled in the regular grade 1 program at the two comparison schools.

Instruments

Data were collected from pupils in both programs on the following measures:

(1) Otis-Lennon Mental Ability Test. In the fall, pupils completed the Primary II level, while in the spring, they completed the Elementary 1 level. Items sample the mental processes of classification, following of directions, quantitative reasoning and comprehension of verbal concepts. Each item in the test is presented orally, no reading is required.

(2) North York Primary Self Concept Inventory

(3) Metropolitan Achievement Test (1970 edition). In the fall, pupils completed the Reading and Numbers subtests of the M.A.T. Primer, Form F, while in the spring, they completed the Reading Comprehension and Math Computations subtests of the M.A.T. Primary 1, Form G.

In addition to the above, the immersion pupils completed the following tests in the spring:

(1) French Comprehension Test - Level 1, developed by the Bilingual Education Project O.I.S.E. to measure the child's listening comprehension in French. The test requires the child to identify pictures that are referred to by a spoken French word, short phrase, sentence, command, question or short story.

(2) Test de rendement en français Grade 1, (1971-72 version)*, developed by the Commission des Écoles Catholiques de Montréal and standardized on a population of Grade 1 children in Montreal whose native language is French. The test consists of 30 items involving the identification of sounds, word definition, vocabulary, spelling and sentence comprehension in French. The test was administered in French, following modified instructions used by the Bilingual Education Project, O.I.S.E.

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* We acknowledge with thanks, the Ministry of Education of the Province of Quebec for permission to use their test in the evaluation.

Procedure

During the first two weeks in October 1974, both groups of pupils were asked to complete the Otis-Lennon Mental Ability Test, the Primary Self Concept Inventory and the Metropolitan Achievement Test. The tests were administered by Educational Research personnel during three sessions of approximately an hour each.

Post-testing occurred during the last week of May and first week of June, 1975. Three separate testing sessions were arranged for both immersion and regular pupils to complete the Otis-Lennon Mental Ability Test, the Primary Self Concept Inventory and the Metropolitan Achievement Test. In addition, two sessions were arranged for immersion pupils to complete the French Comprehension Test and the Test de rendement.

Results

Average scores obtained on each measure are presented in the following tables. All pupils who had scores on each measure were included in the analysis. As testing was carried out on several days, not all pupils were present for each testing session.

Otis Lennon Mental Ability Test

The average IQ score in the fall for immersion pupils in Grade 1 was significantly higher than that of pupils in the regular program (116 vs. 107), therefore, as at the kindergarten level, it was necessary to adjust statistically, all other scores to take into account this initial discrepancy.

The average adjusted IQ scores obtained in the spring by the immersion and regular groups were 109 and 111, respectively. The difference between these adjusted sets of scores was not statistically significant.

Primary Self Concept Inventory

Average adjusted scores for the grade 1 pupils on both fall and spring administrations of the Primary Self Concept Inventory are shown in the following table.

AVERAGE ADJUSTED SCORES OBTAINED ON THE

PRIMARY SELF CONCEPT INVENTORY*

		Grade 1	
		Immersion Program	Regular Program
Fall 1974	Average	27	30
	Number of Pupils	57	59
Spring 1975	Average	33	30
	Number of Pupils	57	59

* Maximum score = 40

In the fall, pupils in the regular program obtained significantly higher scores on the Self Concept Inventory than the immersion pupils. In the spring, however, the immersion pupils' average score was significantly higher than that of the pupils in the regular program. The reader will note that pupils in the regular program maintained their self concept scores on the average during the course of grade 1, while immersion pupils showed an increase in their scores during the year.

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Average adjusted scores for the grade 1 pupils on both fall and spring administrations of the Primary Self Concept Inventory are shown in the following table.

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	Number of Pupils	57	59

* Maximum score = 40

In the fall, pupils in the regular program obtained significantly higher scores on the Self Concept Inventory than the immersion pupils. In the spring, however, the immersion pupils' average score was significantly higher than that of the pupils in the regular program. The reader will note that pupils in the regular program maintained their self concept scores on the average during the course of grade 1, while immersion pupils showed an increase in their scores during the year.

Achievement - Reading

Average standard scores in Reading Comprehension obtained at the beginning of grade 1 by pupils in each program are shown in the following table.

AVERAGE ADJUSTED STANDARD SCORES
IN READING COMPREHENSION

		Grade 1	
		Immersion Program	Regular Program
Fall '74 (*M*.A.T. Primer)	Average	30	33
	Number of Pupils	64	62

Although the average reading score for the pupils in the regular program was statistically significantly higher than that for immersion pupils at the beginning of grade 1, ie. before formal instruction in reading had begun, educationally, the difference between the two groups was not large.

At the end of grade 1, however, there was a much greater discrepancy between the average scores for pupils in the two programs.

AVERAGE ADJUSTED STANDARD SCORES IN
READING COMPREHENSION

		Grade 1	
		Immersion Program	Regular Program
Spring '75 (M.A.T. Primary 1)	Average	33	42
	Number of Pupils	50	60
	Corresponding g.e.*	1.5	1.9

* Expected grade equivalent for May is 1.8

These results are not unexpected, however, in view of the fact that the immersion pupils received no formal instruction in learning to read in English during the grade 1 program.

Based on the American norms available for the test, the immersion pupils scored at the 24th percentile. Thus, although they had not yet learned to read in English at school, they still performed at a level equal to or better than twenty-four percent of the Grade 1 population who participated in the development of the test and who learned to read in English.

In terms of grade equivalents, the average score obtained by the immersion pupils corresponds to the average score of pupils in the sixth month of grade 1 (ie. 1.5)**. The expected grade equivalent for the time of year when the testing was carried out is 1.8. It appears, therefore, that there may have been some transfer of reading skills to English despite the lack of formal instruction.

Achievement Tests - Mathematics

Average standard scores in mathematics obtained in the fall and spring by pupils in the two programs are shown in the following table.

AVERAGE ADJUSTED STANDARD SCORES
IN MATHEMATICS

		Grade 1	
		Immersion Program	Regular Program
Fall '74 (M.A.T. Primer)	Average	28	34
	Number of Pupils	61	65
Spring '75 (M.A.T. Primary 1)	Average	39	42
	Number of Pupils	58	64
	Corresponding g.e. *	1.7	1.8

*Expected grade equivalent for May is 1.8.

** A grade equivalent indicates the grade placement of pupils for whom a specific score is typical or average. The grade placement at the time of testing in terms of a whole year and fraction of a year is shown in the following table. For example, a g.e. of 4.1 represents the norm for pupils in October of grade 4.

Date of Testing	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Grade Placement	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9

In both fall and spring, pupils in the regular program obtained significantly higher math scores than pupils in the immersion program. However, despite the fact that these differences are statistically significant, in terms of educational significance, the differences are far less important. Based on the American norms for the test, in the spring, pupils in the immersion program were performing at a level equal to or better than 42% of the norm group, while pupils in the regular program obtained an average score equal to or greater than 50% of the norm group. In terms of grade equivalents, the average score of the immersion pupils was equivalent to the average score of pupils in the eighth month of grade 1 (ie. 1.7). As the tests were administered in May, ie. the ninth month of grade 1 (1.8), pupils in the immersion program are just one month behind where you would expect them to be.

French Comprehension Test - Level 1

The average score for immersion pupils at grade 1 on the French Comprehension Test is shown in the following table.

	Immersion Pupils (N=63)
Average	29
Range of Scores	17 - 38
Maximum Score	45

In terms of the norms developed for the test at the Grade 1 level, a score of 29 falls at the 50th percentile. Therefore, on the average, pupils in the North York immersion program obtained scores equal to or better than 50% of their peers in similar programs across Canada.

Test de rendement en français

The average score obtained by immersion pupils on this test is shown in the following table.

	Immersion (N = 63)
Average	13
Range of Scores	7 - 26
Maximum Score	30

The reader will recall that this test was developed in Quebec for grade 1 pupils whose native language is French. In terms of the norms developed for the test, the average score obtained by the North York pupils indicated that they performed as well as from 11 to 22 percent of native French-speaking grade 1 pupils.

Summary

At the end of grade 1, therefore, pupils in the immersion program had very positive feelings about themselves within school; were able to transfer some of their reading skills in French to English; were performing at an acceptable level in mathematics and were developing some competence in French.

Grade 2 (1975 - 76)

Sample and Instruments

Data were collected on the following measures from all pupils enrolled in the grade 2 immersion program and those grade 2 pupils in the comparison schools who participated in the study at grade 1:

(1) Otis-Lennon Mental Ability Test. Administered only in the spring, pupils completed the Elementary I level.

(2) Intermediate Self Concept Inventory developed by Educational Research and Development. This inventory, suitable for pupils in grades 2 - 6, has 30 items which assess pupils' feelings about themselves within the school setting.

(3) Metropolitan Achievement Test (1970 edition). In the fall, pupils completed the reading comprehension and numbers subtests of the M.A.T. Primary 1, Form F, while in the spring they completed the reading comprehension and math subtests of the M.A.T. Primary II, Form G.

In addition to the above, the immersion pupils completed the following tests in the spring:

(1) French Comprehension Test - Level 1. Although this is the same test as that administered at the end of grade 1, O.I.S.E. had not yet developed a test for use at the grade 2 level.

(2) Test de rendement en français*, Grade 2 developed by the Commission des Écoles Catholiques de Montréal and standardized on a population of grade 2 children in Montreal whose native language is French. The test consists of 30 items involving vocabulary, spelling, identification of sounds, synonyms and antonyms and sentence comprehension.

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*We acknowledge with thanks, the Ministry of Education of the Province of Quebec for permission to use this test in the evaluation.

Procedure

In October, both groups of pupils were asked to complete the Self Concept Inventory and the Metropolitan Achievement Test. The tests were administered by Educational Research personnel during two sessions of approximately one hour each. As the pupils participating in the evaluation had been subjected to a great deal of testing, it was decided to minimize the fall testing by eliminating administration of the Otis-Lennon Mental Ability Test. The test scores obtained in the previous spring at the end of grade 1 were used as a pre-test measure for grade 2.

Post-testing occurred during the third week of May, 1976. Three separate sessions were arranged for pupils in each program to complete the Otis-Lennon Mental Ability Test, the Self Concept Inventory and the Metropolitan Achievement Test. In addition, two sessions were arranged during the first week of June for the immersion pupils to complete the French Comprehension Test and the Test de rendement en francais.

Results

Average scores obtained on each measure by pupils in each of the programs are presented in the following tables.

Otis-Lennon Mental Ability Test

The average IQ score obtained by immersion pupils in the spring of 1975 at the end of Grade 1 was significantly higher than that of pupils in the regular grade 2 program (112 vs. 108). Therefore, as in the analysis for kindergarten and grade 1, it was necessary to adjust, statistically, all of the remaining test scores to account for the discrepancy.

The average adjusted IQ scores obtained in the spring of 1976 at the end of grade 2 by the immersion and regular groups were 111 and 105, respectively. During the three year evaluation from kindergarten to grade 2, the immersion pupils have maintained their average IQ score. There does not appear, therefore, to have been any detrimental effects of the immersion program in terms of the cognitive development of the children.

Self Concept Inventory

On both fall and spring administrations of the Self Concept Inventory, pupils in each of the two programs obtained an average adjusted score of 20 out of a maximum score of 30.

Pupils in both programs have thus maintained their positive feelings about themselves within the school setting during the three year evaluation.

Achievement - Reading

At the beginning of grade 2, pupils in the regular program obtained significantly higher reading scores, on the average, than pupils in the immersion program. The reader should recall that at

this point, the immersion pupils had not yet started their formal instruction in reading in English (see following table).

AVERAGE ADJUSTED STANDARD SCORES
READING COMPREHENSION

		Grade 2	
		Immersion Program	Regular Program
Fall '75 (M.A.T. Primary 1)	Average Standard Score	41	49
	Number of Pupils	54	45
	Corresponding grade equivalent*	1.8	2.3

* Expected grade equivalent for October is 2.1

By the end of grade 2, however, there was no statistically significant difference between the two groups in terms of their average reading scores.

AVERAGE ADJUSTED STANDARD SCORES
READING COMPREHENSION

		Grade 2	
		Immersion Program	Regular Program
Spring '76 (M.A.T. Primary II)	Average Standard Score	55	58
	Number of Pupils	56	45
	Corresponding grade equivalent*	2.8	3.1

* Expected grade equivalent for May is 2.8

The expected grade equivalent for the time of testing, ie. May, is 2.8. The reader will note that, on the average, the immersion pupils were performing at the expected grade equivalent.

In terms of reading comprehension, therefore, by the end of grade 2, pupils in the immersion program were performing at a level equal to that expected for typical pupils in the ninth month of grade 2.

Achievement - Mathematics

The average adjusted scores in mathematics for both groups are shown below.

AVERAGE ADJUSTED STANDARD SCORES
MATHEMATICS

	Grade 2			
	Fall '75-Primary I		Spring '76 - Primary II	
	Immersion	Regular	Immersion	Regular
Average Standard Score	49	50	57	59
Number of Pupils	57	42	55	39
Corresponding grade equivalent*	2.2	2.3	2.7	2.9

*Expected grade equivalent for October is 2.1

Expected grade equivalent for May is 2.8

There were no significant differences between the two groups in terms of their average mathematics scores in either the fall or the spring.

Thus at the end of grade 2, immersion pupils were performing in mathematics at a level comparable to their peers in the regular grade 2 program.

French Comprehension Test - Level 1

The average score for the immersion pupils in grade 2 on the French Comprehension Test is shown in the following table.

	Immersion Pupils (N = 56)
Average	36
Range of Scores	25 - 43
Maximum Score	45

The average score obtained by the North York pupils (ie. 36) compares favourably with that obtained by other pupils in immersion programs at the grade 2 level (ie. 38).

Test de rendement en français

Immersion pupil obtained an average score of 13 out of a maximum of 30 on this test developed for native-speaking French pupils at the grade 2 level. Thus, at the end of their third year in the immersion program, pupils were performing at a level comparable to 11 - 22% of native-speaking French pupils.

SUMMARY - Pupil Data

The progress of the pupils enrolled in the first classes of the French immersion program at Brian and Broadlands has been followed for three years, from kindergarten to grade 2. The findings of the evaluation of the North York program are consistent with those of programs in other Canadian centres. For example:

- The French language achievement of pupils is comparable to that of pupils in similar programs. Pupils are developing proficiency in French.

- As in other programs, the immersion pupils did not do as well on the measure of reading comprehension in English as their peers in the comparison group at the end of grade 1. However, following the introduction of formal instruction in English language arts during the grade 2 program, the immersion pupils made gains in their reading comprehension scores and by the end of grade 2 were performing at the expected level for the time of testing.

- In terms of achievement in mathematics, in both grade 1 and grade 2, pupils were performing at a level comparable to that of the comparison group and appropriate for their grade level.

- There was no evidence of detrimental effects in terms of pupils' general cognitive development.

PART II - PARENT DATA

Parents of children in the immersion program at Brian and Broadlands were requested to complete questionnaires regarding various concerns, attitudes towards French in general and the immersion program. Questionnaires were distributed in September 1973 at the beginning of the kindergarten program and also in June of that year, and the two following years. As one would expect, some of the questions were more appropriate at a specific point in the program and were not included in each questionnaire. This section is a summary of the four questionnaires and wherever possible, if the same question was included more than once, comparisons have been made and contrasts noted. The following table indicates the number of questionnaires returned.

	Sept. '73	June '74	June '75	June '76
Number of Questionnaires Returned	60	41	49	39

Parents' responses to the question "Why did you enroll your child in the French Kindergarten?" are summarized in the following table.

REASONS FOR ENROLLING CHILD IN IMMERSION PROGRAM	September '73 Number Of Responses	June '74 Number Of Responses
To learn French, become bilingual	22	11
Learning a second language is easier for young children	19	7
To take advantage of a unique opportunity to learn a second language	17	8
Learning a second language is an advantage/ benefits child socially and in business later on	13	8
To broaden child's mind, provide more stimulation than the regular program	12	9
In Canada, should know both languages	-	5
Other	3	3
No Response	-	2
NUMBER OF QUESTIONNAIRES RETURNED	60	41

In September 1973, at the beginning of the program, most parents reported that they enrolled their child in the immersion program because -

1. they wanted the child to learn French and to become bilingual.
2. they felt that learning a second language is easier for young children.
3. they wanted to take advantage of the opportunity available for their child to learn French.

In June, after their child had spent one year in the program, they still felt that the most important reason for enrolling him was so that he may learn French and become bilingual. However, now ranking second in importance is that the program will serve to "broaden the child's mind and provide more stimulation than the regular program".

Parents' feelings regarding the long term benefits for their child continuing in the immersion program to grade 13 were similar in many respects to their reasons for enrolling their child in the program at the kindergarten level. They felt their child would learn to speak French fluently, it would be an asset in later life in terms of business and job opportunities and would provide enrichment and a well-rounded educational experience.

BENEFITS OF CONTINUING IN IMMERSION PROGRAM TO GRADE 13	September, 1973 Number of Responses*
Will speak French fluently, acquire a deeper understanding of the French culture	34
Will be an asset later in terms of choosing a university, and in terms of business opportunities	23
Provides enrichment and a well-rounded educational experience	12
Will encourage and make international travel easier	7
Provides opportunity for continued use of French language	7
Other	2
NUMBER OF QUESTIONNAIRES	60

*Responses do not total 60 as many parents mentioned more than one benefit.

In June of the kindergarten year, parents were asked several questions regarding their child's experiences in the program. Of the 41 parents who returned a questionnaire in June, thirty-five or 85% indicated that their child had learned as much French as they had expected. Thirty-six of the 41 parents indicated that their child had no difficulty adjusting to the immersion class in September. Forty of the 41 parents indicated that their child would be continuing in the program at the grade 1 level.

Forty-eight (98%) of the 49 parents who returned questionnaires at the end of grade 1 reported that their child had learned as much French as they had expected and all indicated their intention to re-enroll their child in the program the following year at the grade 2 level.

At the conclusion of the grade 2 year, parents again reported a high degree of satisfaction with their child's progress. Thirty-four of 39 respondents (87%) stated that as much French as had been expected was actually learned. One parent reported that his child's progress was not as great as it had been in previous years and several indicated that it was difficult to judge since they themselves did not speak the language. Thirty-eight of the 39 parents planned to re-enroll their child once more in the immersion program at the grade three level. One parent indicated that moving plans would make this impossible. All parents indicated that if they had the decision to make again, they would enroll their child in the French immersion program.

When asked, "What does your child like most about the French program?" parents gave the following responses:

WHAT DOES YOUR CHILD LIKE MOST ABOUT
THE FRENCH PROGRAM?

Response Category	Grade 1 Number of Responses	Grade 2 Number of Responses
Likes everything	12	4
Singing songs, playing games in French	11	8
Conversing in French	9	6
Writing stories and reading in French	8	12
Doing math in French	7	10
Learning another language	6	-
Likes the teacher	6	5
Art, gym	5	1
Nothing in particular	2	-
Spelling	-	2
Challenge	-	2
Other	5	3
No response	5	4
Number of Respondents 28	49	39

It is interesting to note that a large number of the grade one pupils indicated that they enjoyed everything in general or the songs and games aspect of the program. This shifted slightly in grade two, however, when a large group indicated a specific interest in areas of more academic concentration (e.g. math and reading).

Parents were also asked to indicate the things their child disliked about the program.

WHAT, IF ANYTHING, DOES YOUR CHILD DISLIKE ABOUT THE FRENCH PROGRAM?

RESPONSE CATEGORIES	Grade 1 Number Of Responses	Grade 2 Number Of Responses
Dislikes nothing	17	12
Would like to read and write in English too	3	-
Feels reluctant to speak in French	2	2
Work is too difficult	2	1
Other	6	4
No response	19	20
Number of Respondents	49	39

The reader should note that 36 of the forty-nine parents in grade 1 (73%) and 32 of the thirty-nine parents responding in grade 2 (82%) either did not respond to this question or indicated that there was nothing their child disliked about the program. This would appear to be a fairly strong endorsement of the program!

In June of each year, the parents were asked if they had any suggestions for changes which could be made in the program. Eleven of 44 kindergarten parents, 13 of forty-nine grade one parents and 11 of thirty-nine parents at the grade two level contributed suggestions. The comments at the kindergarten stage maintained no particular patterns. The following illustrate their suggestions:

- A program to assimilate socially, the children and parents both in English and French.
- Continuous progressive revision of vocabulary as it is learned.
- Classrooms should be equipped from the very beginning.
- More learning aids, e.g. pictures, word and number associations, etc.
- Extra help for children who find difficulty with the language.

The following chart summarizes the grades one and two responses.

Suggestions for Changes in Program	Grade 1 Number Of Responses	Grade 2 Number Of Responses
Have low pupil-teacher ratio	4	-
Ensure that there are no mixed grades below grade 3	3	2
Greater emphasis on teaching English	2	2
Greater communication with parents	-	2
Other	7	6

Examples of a few of the suggestions categorized as "other" are as follows:

- I would like to be more involved. My child (and I think she's typical of the majority) speaks almost no French outside of the classroom so we see very little evidence of her learning even though we know it's been good.
- Assurance from the Board of Education that we will receive the full amount of money granted for this program in order to provide our children with adequate instruction and supplies.
- In order for it to continue all who are for the program must be encouraged to promote Public Relations for it. The Board and its administrators have failed in this respect.

In June of each consecutive year, parents were asked if they had become more interested in French and French activities since their child enrolled in the program. Their responses are summarized in the following table:

Response Categories	NUMBER OF RESPONSES					
	Kindergarten 1973 - 74 (N=44)		Grade 1 1974-75 (N=49)		Grade 2 1975-76 (N=39)	
	#	%	#	%	#	%
Yes	28	64	35	71	24	62
No	8	18	11	22	11	28
No Response	8	18	3	6	4	10

Those who had become more interested had done the following:

Response Categories	Number of Responses *		
	Kindergarten	Grade 1	Grade 2
Improved general interest and basic use of French	4	9	8
Attended French classes	2	-	3
Watched more French T.V.	-	3	-
Read more French books and activities	-	4	-
Other	-	-	3

* Not all parents indicated how their interest had increased.

Several parents at each grade noted that they had always been interested in French and continued to maintain such an interest.

In September of 1973 and at the conclusion of each year of the program, parents were asked the extent to which they participated in activities involving the speaking of French and/or activities related to French culture, e.g. reading French newspapers or magazines, watching French T.V. At the outset, most parents indicated that they "seldom" or "never" engaged in any of the activities listed. An indication of the extent to which their child's participation in the immersion program influenced the parents' behaviour, is shown in the following table.

ACTIVITY	Percentage of Parents Who "Seldom" or "Never Engaged in Activity			
	Sept. '73* Kindergarten	June '74* Kindergarten	Grade 1 (N= 49)	Grade 2 (N= 39)
Attending French Plays	97	90	94	90
Reading French Newspapers	94	97	94	92
Reading French Magazines	94	87	84	85
Listening to French radio broadcasts	90	81	63	69
Inviting French-speaking people to their home	77	74	76	67
Visiting French-Canadian homes in Metro	77	84	82	85
Watching French T.V.	65	42	35	46
Speaking French to their child	55	39	33	44

* Based on responses of 31 parents who returned questionnaires in both September and June of the Kindergarten year.

It is obvious that parents' behaviour changed with respect to two of the activities listed, speaking French to their child and watching French T.V. More than half of the parents included in this analysis now "sometimes" engage in these activities. It is important to note, however, that this change took place between September and June of the first year of the program and no significant changes have occurred since then.

A more gradual change over the three year period may be noted regarding an increase in the number of parents who listen to French radio broadcasts and one might also notice an increase of almost ten percent between grades one and two in the number who invite French-speaking people to their home.

In each of the questionnaires parents were asked whether they encouraged their child to participate in activities related to French. The great majority, in each case, replied that they did. The activities mentioned are shown in the following table.

ACTIVITY	Percentage of Parents Who Encouraged Their Child to Engage in Activity			
	Kindergarten Sept. '73*	Kindergarten June '74*	Grade 1 June '75 (N=49)	Grade 2 June '76 (N=39)
Speaking in French at home	35	42	86	82
Reading French story books	3	19	86	85
Watching French T.V.	65	68	76	74
Playing with Friends who speak French * 1			37	56
Listening to French radio broadcasts	6	13	18	28
Inviting French-speaking people to home* 2	6	6		
Visiting French-Canadian homes in Metro * 2	3	-		
No Response	26	19	-	3

* Based on responses of 31 parents who returned questionnaires in both September and June.

1 Item not included in 1973 and 1974 questionnaires

2 Item not included in 1975 and 1976 questionnaires.

Significant increases are evident in the number of parents who encourage their child to participate in French activities between kindergarten and grade one. The vast majority now encourage their child to speak, read and listen to French at home. A considerable increase may be noted regarding the item "Reading French Storybooks", from 3% in September 1973 to 86% in June of the Grade 1 year. This is probably indicative of a greater concern on the part of parents regarding their child's development in reading as well as an increased emphasis on French.

Seventy-three percent of the parents at the end of grade one and sixty-two percent at the end of grade two reported that they purchase material written in French for their child. The kinds of things they buy are summarized in the following table.

RESPONSE CATEGORIES	Number of Responses	
	Grade 1 1974 - 75 (N=49)	Grade 2 1975 - 76 (N=39)
Story and picture books	28	16
Records	11	1
Colouring books	6	-
French dictionary	5	1
Comics	2	3
Workbooks	2	-
French books from Library	2	-
Other	-	2
No Response	2	-

* Responses do not total the number of respondents since many parents noted more than one item.

Parents at the grade one and two levels were questioned regarding the night school course offered for parents of children enrolled in the immersion program. Twenty of the 49 respondents at the grade one level attended the course and although thirty-four of these parents said they would be interested in attending if the course were offered again the next year, only seven of 39 parents who responded at the end of the grade 2 level attended the course during the grade two year. Parents were asked to rate the course in terms of its usefulness

	Very Useful		Alright/ Not Bad		Not At All Useful
Gr. 1, 1974 - 75 (N=20)	3 = 15%	3 = 15%	13 = 65%	-	1 = 5%
Gr. 2, 1975 - 76 (N=7)	1 = 14%	1 = 14%	4 = 58%	-	1 = 14%

The parents were asked to elaborate on their rating and their comments are summarized below.

RESPONSE CATEGORIES	Number of Responses	
	Grade 1 -(1974-75)	Grade 2 (1975-76)
Course well presented	5	-
Helpful for basic vocabulary	4	1
Gave an idea of what children learn	4	-
* Too elementary for adults	2	1
Did not finish course	-	2
Attended different course	-	2
Other	4	2
No Response	4	1

* The reader should note that the course for parents was designed to provide them with the vocabulary and structures being taught to their children in kindergarten and grade 1.

Parents were also asked to complete several items related to their attitudes toward learning French and French-speaking people. Parents' responses in September 1973 to the item "Some people think too much attention is paid to French today. What do you think about this?"* are summarized in the following table.

"TOO MUCH ATTENTION IS PAID TO FRENCH TODAY"	Number of Responses
Disagree, it is an important part of our culture, not enough attention given in Ontario.	35
Agree, however, all for it, encourages understanding	8
A second language should remain optional and not be forced	7
Other	11

The majority of parents disagreed with the statement, feeling that French is an important part of the Canadian culture and in fact many felt that in Ontario, not enough attention is paid to French. The following are examples of comments made:

- We are living in probably the best country in the world. It is bilingual, so should we be.
- We think there has been a great deal of talk about the "French problem" and not many concrete projects for encouraging a real understanding between the French and English. We see Immersion French as a concrete project.
- Not enough attention is paid, but if we try and learn the French language perhaps this will lead to better understanding between the two cultures.

In addition, parents were asked each year, to indicate the degree to which they agreed or disagreed with statements related to learning a second language. The percentage of parents at each grade level who "strongly agreed" or "agreed" with each statement is presented in the following table.

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* This was the only time this particular question was included in a questionnaire.

STATEMENT	Kindergarten 1973 - 74 (N=41) *	Grade 1 1974-75 (N=49)	Grade 2 1975-76 (N=39)
	%	%	%
Knowledge of both the English and French languages and cultures probably promotes unity between the English and French-speaking inhabitants of Canada	79	94	92
Early exposure to a second language program probably facilitates a child's intellectual development	84	98	98
Knowledge of a second language is necessary before one can be considered truly educated	43	39	39
Early exposure to a second language program probably facilitates a child's native language development	50	67	64
Knowledge of both English and French languages and cultures is a desirable Canadian goal	77	88	90
Successful learning of a second language is more likely when that language is used as a means of communication as is done in immersion programs	91	96	97
Most young children, for example, kindergarten pupils, usually acquire a second language more easily than pre-adolescents (ages 10 to 12), adolescents (ages 13 to 19) and adults (20 years of age or over)	86	98	95
In the future, in Canada, people who can use both French and English will probably have better employment opportunities than individuals who can use only one of these two languages	73	96	85
The information available about the type of immersion program sponsored by this Board as well as its possible side-effects was sufficient to justify enrolling beginning school children in such a program	82	79	87

* These percentages are based on the June 1974 responses.

It is obvious that parents' attitudes towards the value of learning a second language were positive from the beginning. The responses with the exception of one or two, show that at the end of grade one the views gained more support from the parent group. This increase was maintained at the end of grade two, which indicates that the program's development over three years has reinforced their positive and optimistic views.

Some parents took the opportunity at the end of each questionnaire to write in additional comments which are summarized in the following table. The kindergarten responses are from the June questionnaire since they most accurately indicate the parents' evaluation of the program after their child has been participating in the classroom for at least one year.

RESPONSE CATEGORIES	Number of Responses		
	Kindergarten 1973-74	Grade 1 1974-75	Grade 2 1975-76
Parents are happy with child's progress	5	10	6
Parents are disappointed with child's progress	-	-	1
Pleased with quality of teaching	6	7	2
Need to keep classes small	-	3	-
Excellent opportunity	2	-	-
Concern for continuation of program	2	-	-
Don't want to split Grade 1/2	-	3	-
Should work to prevent a separation of French and English in the school	-	2	-
Child not easily persuaded to use French outside classroom	-	2	-
Expand program - introduce French earlier for all	-	-	3
Conversational group for mothers desired	-	-	2
Other	3	-	2

The following are examples of some of the comments made:

- The French immersion at Broadlands is an excellent program, however I do not believe it would be as successful were it not for the diligence of your teachers and the rapport that they have with the class

- The teachers involved in this program have contributed greatly to the success of the program. I'm greatly pleased with the progress my child has made thus far.

- Keep up the good work. We are very happy with the way our child is progressing in the French program and highly recommend it to others.

- I was strongly against split grades in the immersion program - but since (my child) was in a split grade, she has done well and has enjoyed it. Now I am not sure of my feelings!

- One of my concerns is that we try to integrate the two sides of the school in a friendly manner. Everything possible should be done to keep the English and French intermingled and working together, to break up the rift that is beginning to appear. We must also try to keep our numbers in classes reasonable and our quality of teaching as high as possible in order to be successful in this bilingual program. Our children's achievements will be important to the future of bilingualism in Canada.

- I think there could be more encouragement of extra-curricular French activities which would involve the parents, e.g. groups of parents and children attending French plays, exchange visits with French families. I think there is a stronger tendency in this program for parents to "leave it to the school" and I think ways of counteracting this should be found.

- We have been very impressed with the kindergarten year of the immersion program and particularly feel that the quality of the teacher and the teaching has been exceptionally high. Hope that continues to be true.

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APPENDIX I

MEANS FOR NORTH YORK KINDERGARTEN 1973 - 74

	UNADJUSTED MEANS				ADJUSTED MEANS (Covariate = pre-test DIQ)			
	Immersion	Regular Program	F Ratio	df	Immersion	Regular Program	F Ratio	df
Otis-Lennon Mental Ability Test - October, 1973	109.5	102.6	7.29**	1/94				
Otis-Lennon Mental Ability Test - May, 1974	115.6	112.4	1.12	1/94	112.9	115.5	1.56	1/93
Metropolitan Readiness Test Total Raw Score = 102	66.7	62.9	2.84	1/94	64.8	65.1	< 1	1/93
Word Meaning 16 Items	10.1	9.7	< 1	1/94	9.9	10.0	< 1	1/93
Listening 16 Items	10.7	10.6	< 1	1/94	10.5	10.8	< 1	1/93
Matching 14 Items	9.3	8.3	2.35	1/94	9.6	8.6	< 1	1/93
Alphabet 16 Items	14.0	13.8	< 1	1/94	13.7	14.1	< 1	1/93
Numbers 26 Items	15.4	12.9	11.72**	1/94	14.9	13.4	4.98*	1/93
Copying 14 Items	7.3	7.6	< 1	1/94	6.9	8.0	2.19	1/93

* $p < .05$, crit. F = 3.94

** $p < .01$, crit. F = 6.90

	UNADJUSTED MEANS				ADJUSTED MEANS (Covariate = pre-test DIQ)			
	Immersion	Non Immersion	F Ratio	df	Immersion	Non Immersion	F Ratio	df
Primary Self Concept - October '73. Maximum score = 40	25.9	25.4	< 1	1/94	25.9	25.4	< 1	1/93
Primary Self Concept - May, 1974	23.7	24.6	< 1	1/94	23.7	24.6	< 1	1/93
French Comprehension Test - Total Score 62 Items	34.8							
Words 12 Items	8.2							
Phrases 28 Items	15.4							
Questions 9 Items	5.4							
Stories 13 Items	5.8							

MEANS FOR NORTH YORK GRADE 1 - 1974-75

	UNADJUSTED MEANS				ADJUSTED MEANS (Covariate = pre-test DIQ)			
	Immersion	Regular	F Ratio	df	Immersion	Regular	F Ratio	df
Otis-Lennon Mental Ability Test - Primary II, October '74	115.9	107.1	13.5***	1,128				
Otis-Lennon, Elementary I May '75	112.5	107.6	4.3*	1,126	109.4	110.7	< 1	1,120
Primary Self Concept (Max. Score = 40) October '74	27.5	29.3	2.2	1,126	27.1	29.7	4.1*	1,120
Primary Self Concept May ' 75	32.6	29.8	5.3*	1,119	32.6	29.8	4.9*	1,114
M.A.T. Primer - Reading October '74 (Standard Score)	30.8	31.7	< 1	1,129	29.9	32.6	5.8*	1,123
M.A.T. Primary 1 - Reading May ' 75 (Standard Score)	35.0	40.4	5.6*	1,111	33.2	42.2	15.3***	1,107
M.A.T. Primer - Numbers October '74 (Standard Score)	29.5	32.4	4.2*	1,128	28.2	33.7	18.7***	1,123
M.A.T. Primary I - Numbers May ' 75 (Standard Score)	40.2	40.5	<1	1,125	38.9	41.8	5.6*	1,119
French Comprehension Test - Total Score - 45 items	28.9							
Test de rendement en français - 30 items	13.3							

* $p < .05$; crit F = 3.92 ** $p < .01$; crit F = 6.84 *** $p < .001$; crit F = 11.38

MEANS FOR NORTH YORK GRADE 2 - 1975 - 76

	UNADJUSTED MEANS				ADJUSTED MEANS (Co-variate = Gr. 1, Spring DIQ)			
	Immersion	Regular	F Ratio	df	Immersion	Regular	F Ratio	df
Otis-Lennon Mental Ability Spring Gr. 1 1975	111.8	108.24	3.9*	1,101				
Otis-Lennon Mental Ability Spring Gr. 2 - 1976	112.75	103.49	6.69	1,99*	111.53	104.89	5.03	1,98
Self Concept - October, 1975	19.89	19.60	<1	1,96	20.07	19.82	<1	1,95
Self Concept - May, 1976	20.21	19.58	<1	1,99	20.05	19.60	<1	1,98
M.A.T. Reading - October 1975 (Standard Scores)	41.56	47.53	4.75	1,97*	40.66	48.65	11.12	1,96**
M.A.T. Reading- May, 1976	56.29	57.11	<1	1,99	55.49	58.11	2.12	1,98
M.A.T. Math - October, 1975	49.47	48.64	<1	1,97	48.67	49.64	<1	1,96
M.A.T. Total Math - May, 1976	57.49	58.41	<1	1,92	56.69	59.41	1.84	1,91
Math Comprehension - May, 1976	54.46	52.07	1.48	1,97	53.82	52.87	<1	1,96
Math Concepts - May, 1976	53.35	57.24	3.05	1,97	52.55	58.24	8.34	1,96**
Math Problem Solving - May, 1976	57.87	58.74	<1	1,95	56.91	59.94	1.93	1,94
French Comprehension Test	36.53							
Test de rendement - deuxieme Année	12.52							

* $p < .05$; crit F = 3.94

** $p < .01$; crit F = 6.85